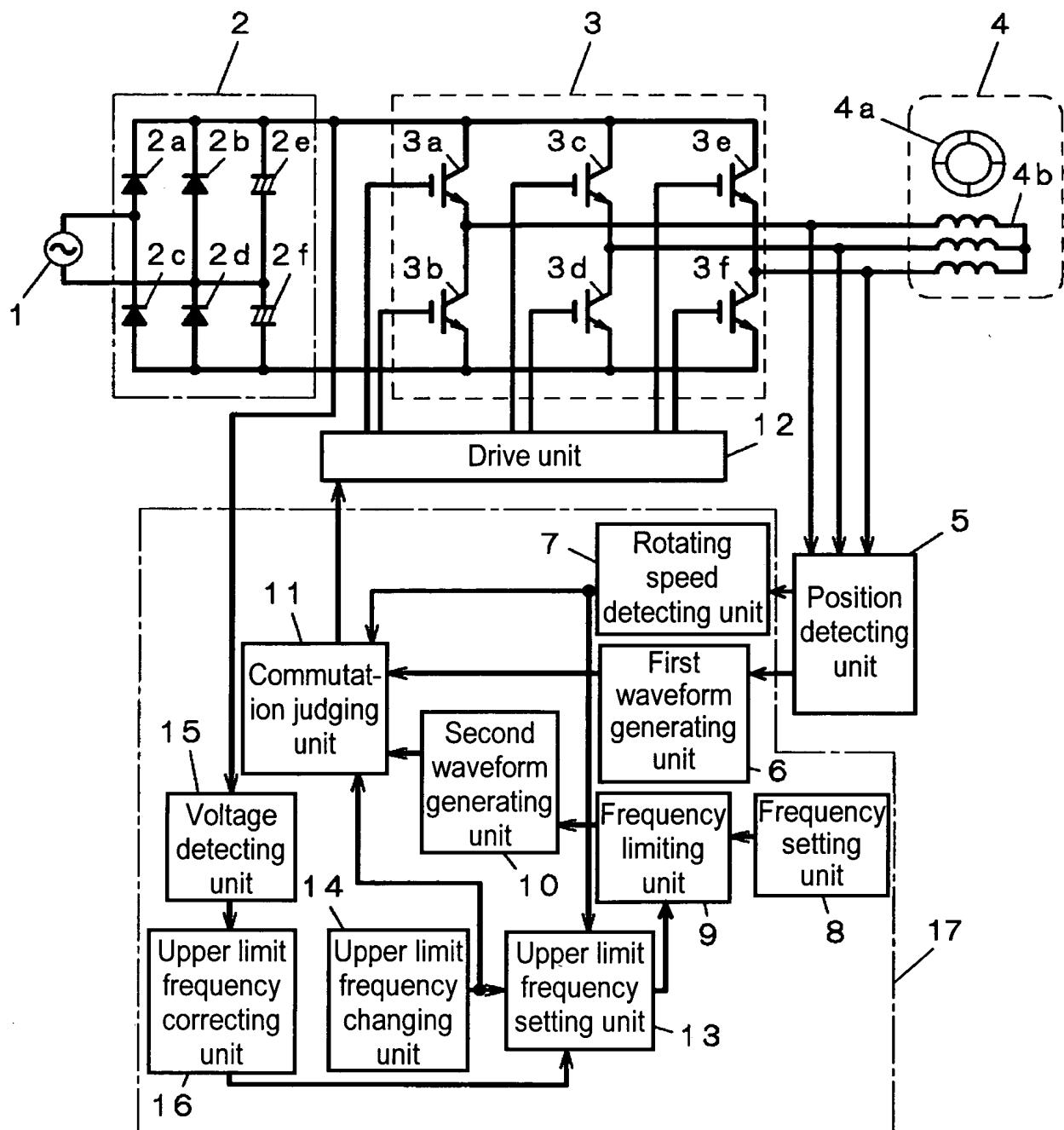


1/19

FIG. 1



2/19

FIG. 2

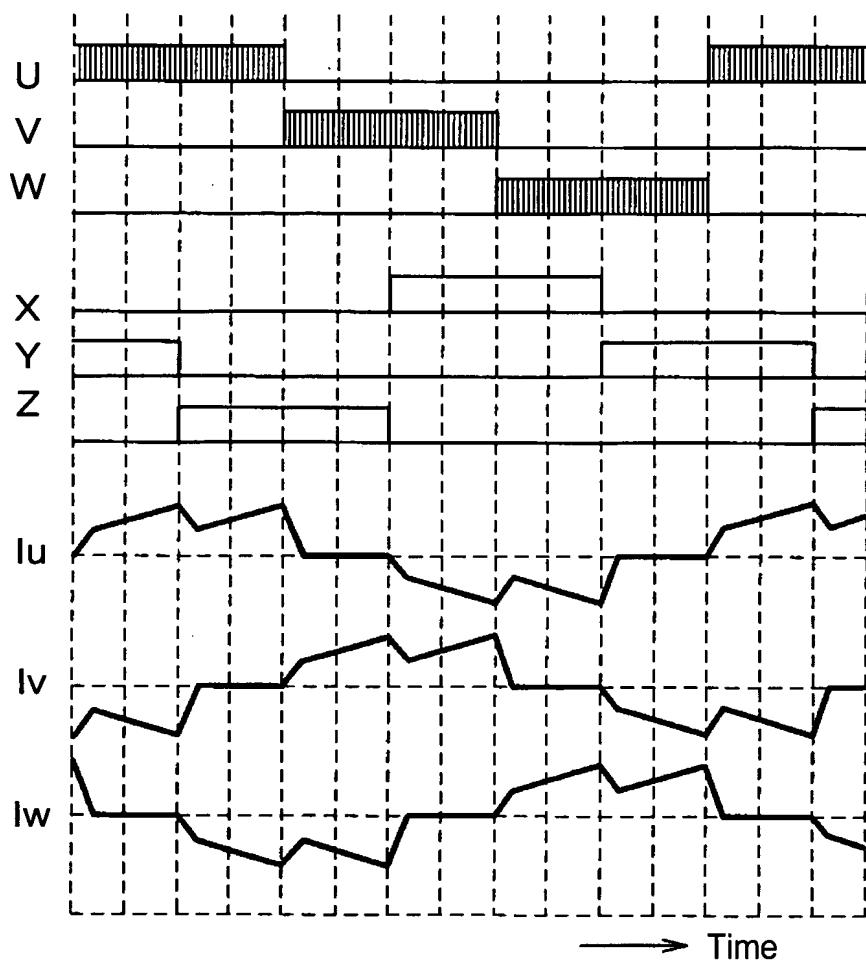
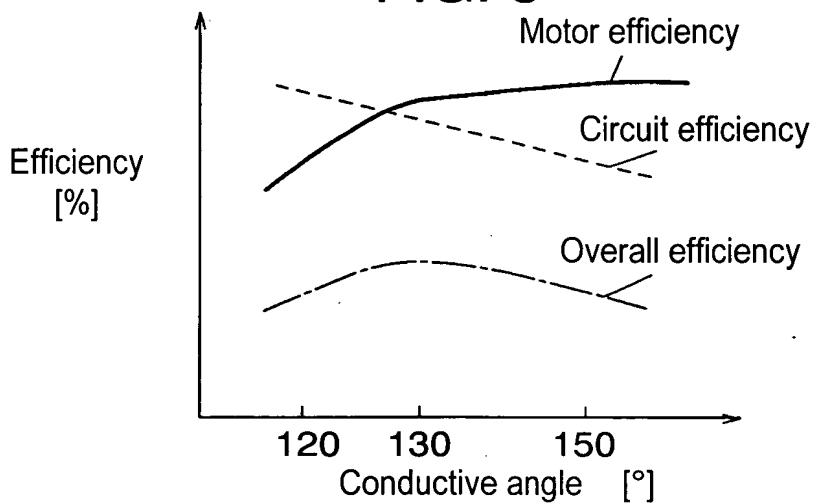


FIG. 3



3/19

FIG. 4

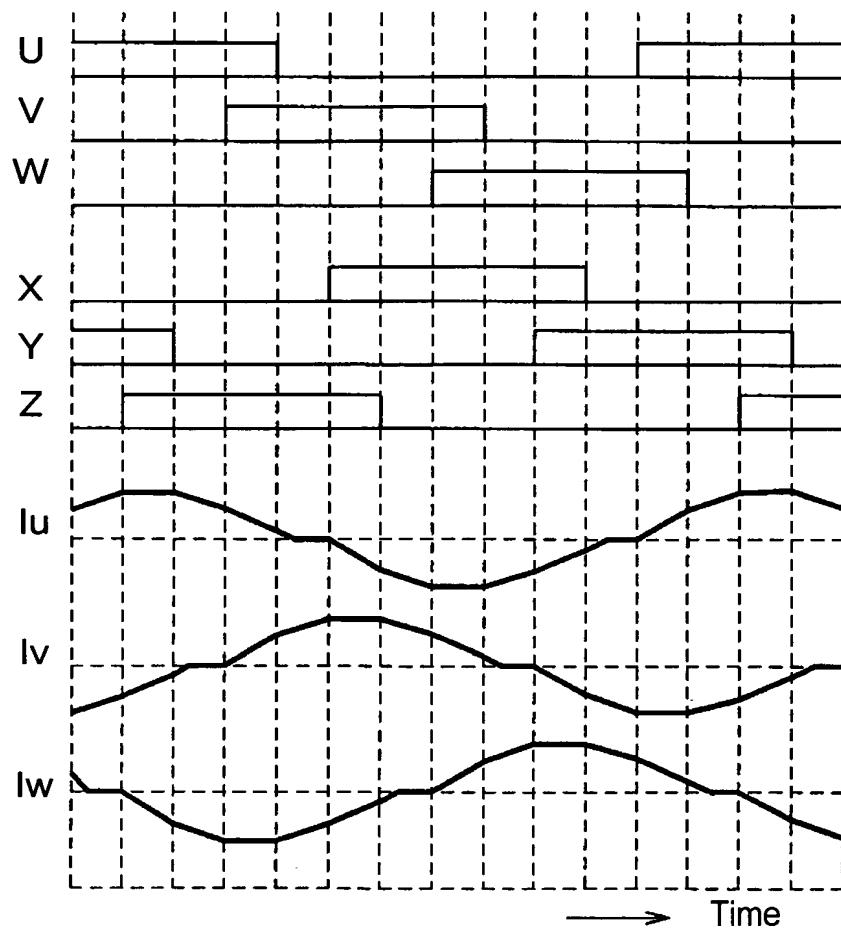
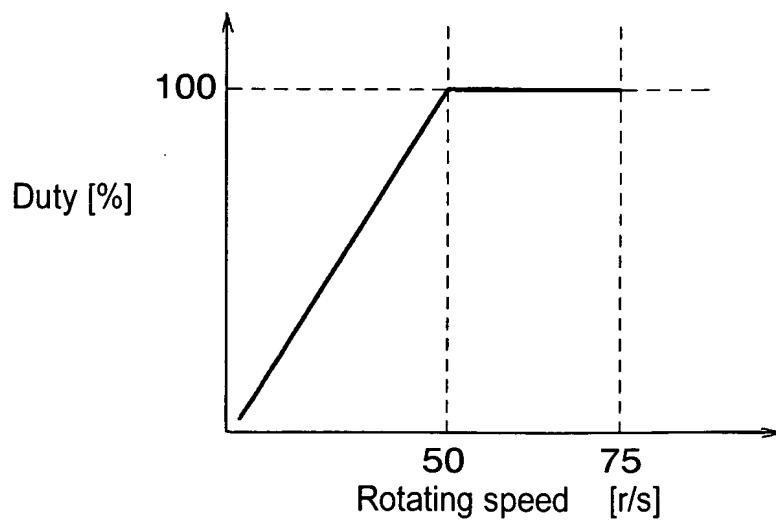


FIG. 5



4/19

FIG. 6

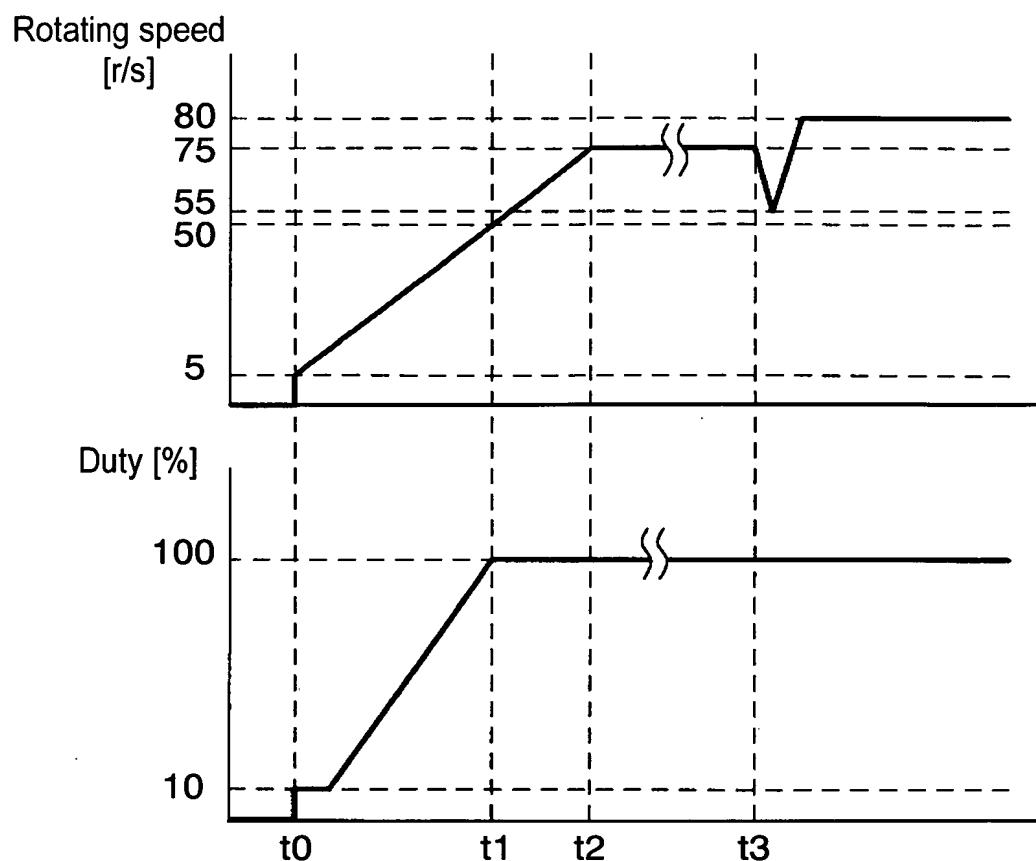
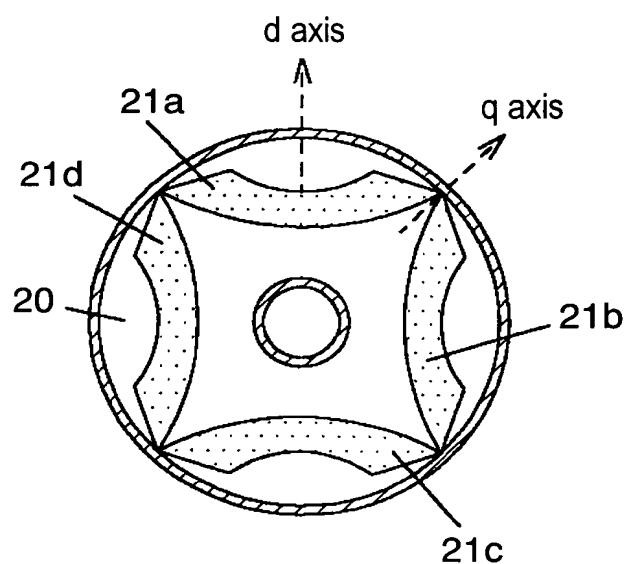


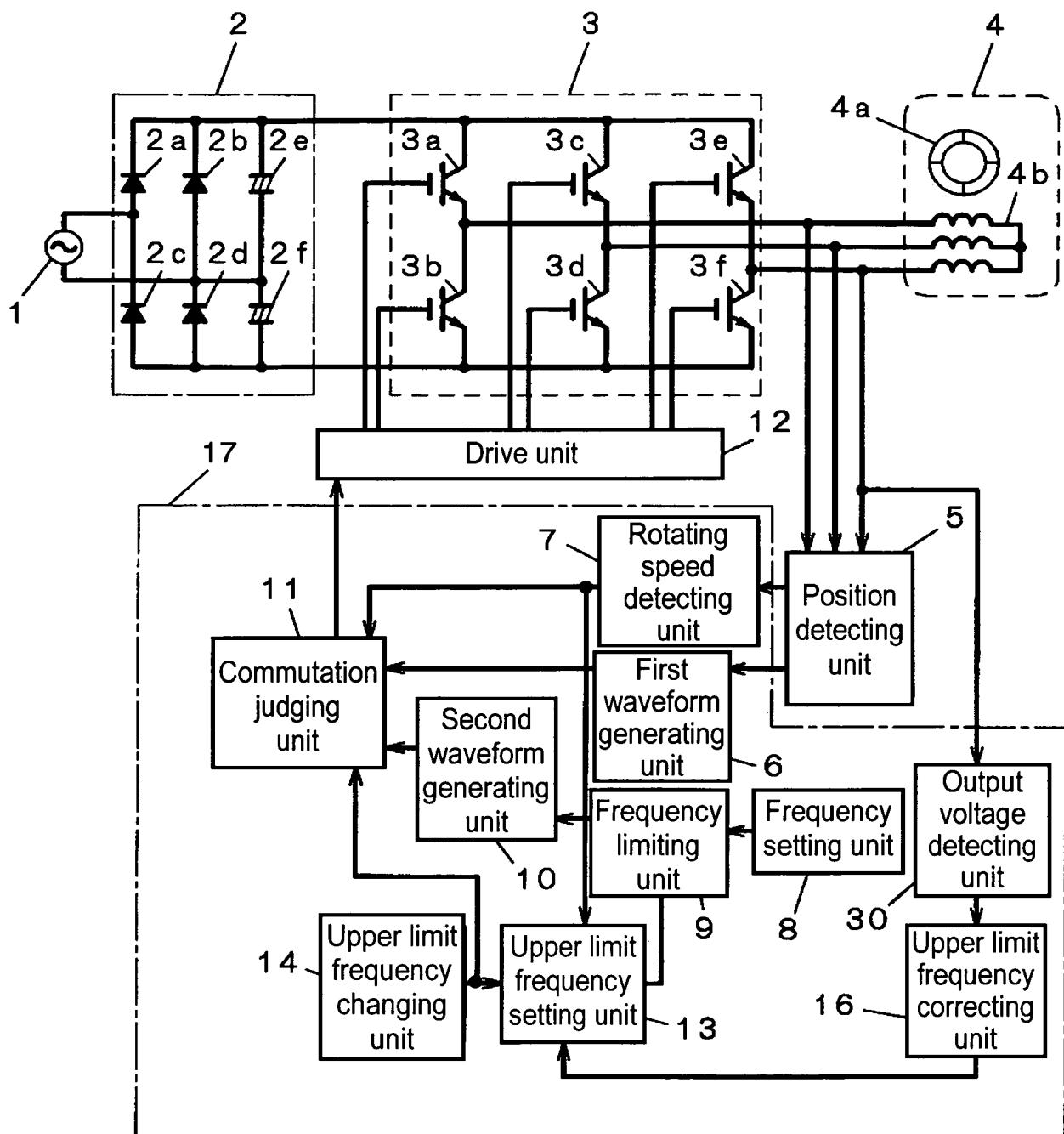
FIG. 7



10/546001

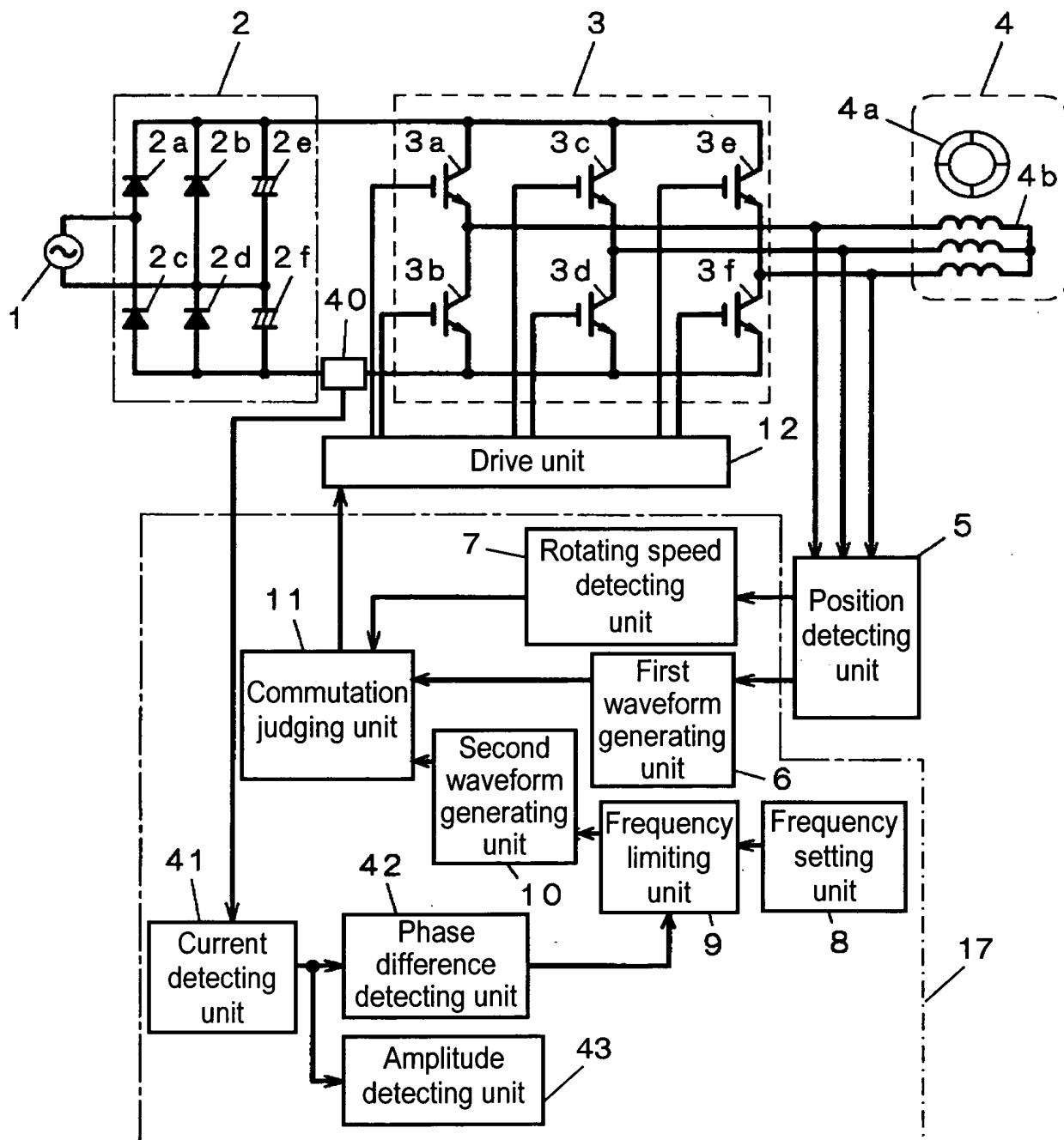
5/19

FIG. 8



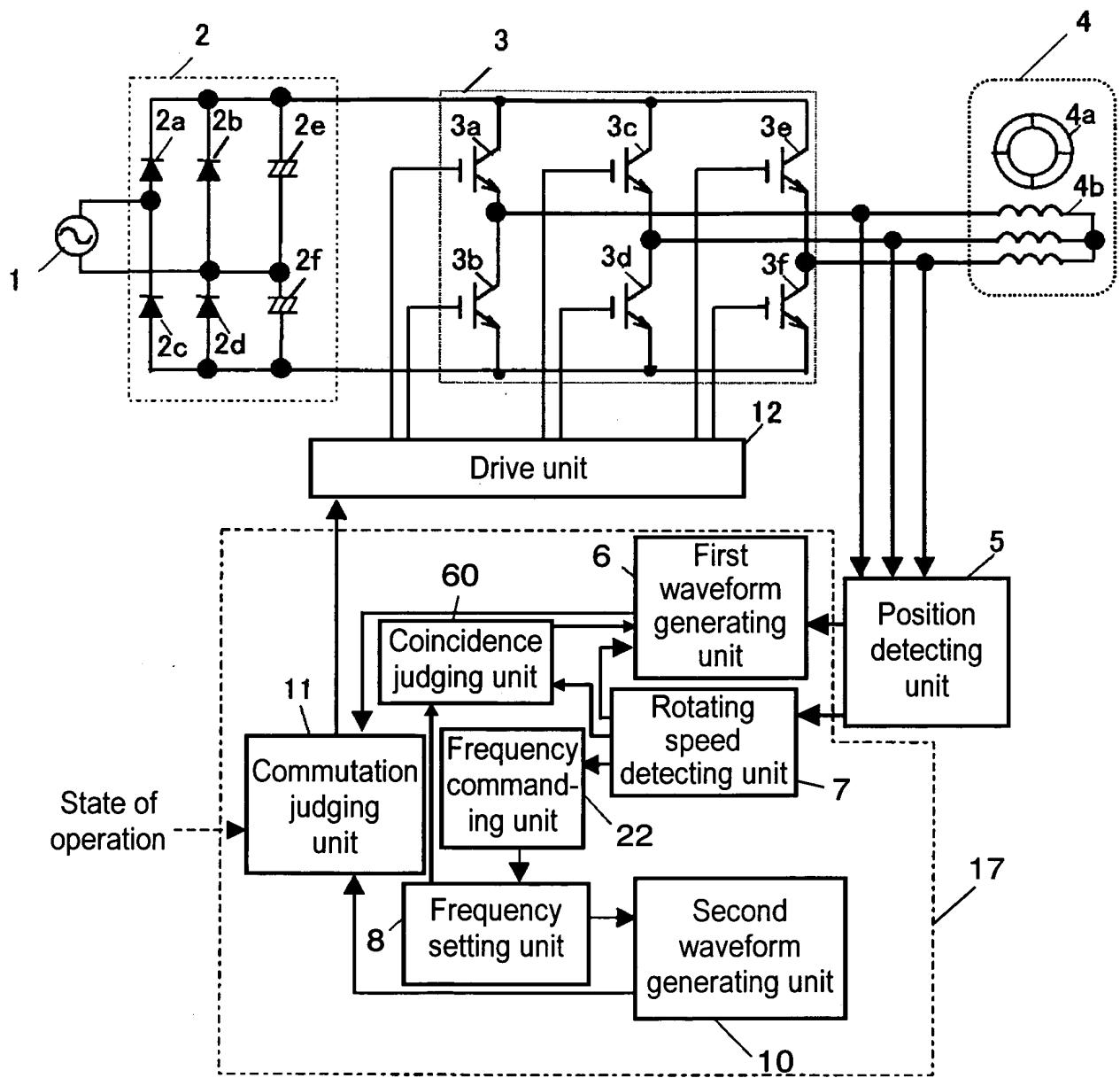
6/19

FIG. 9



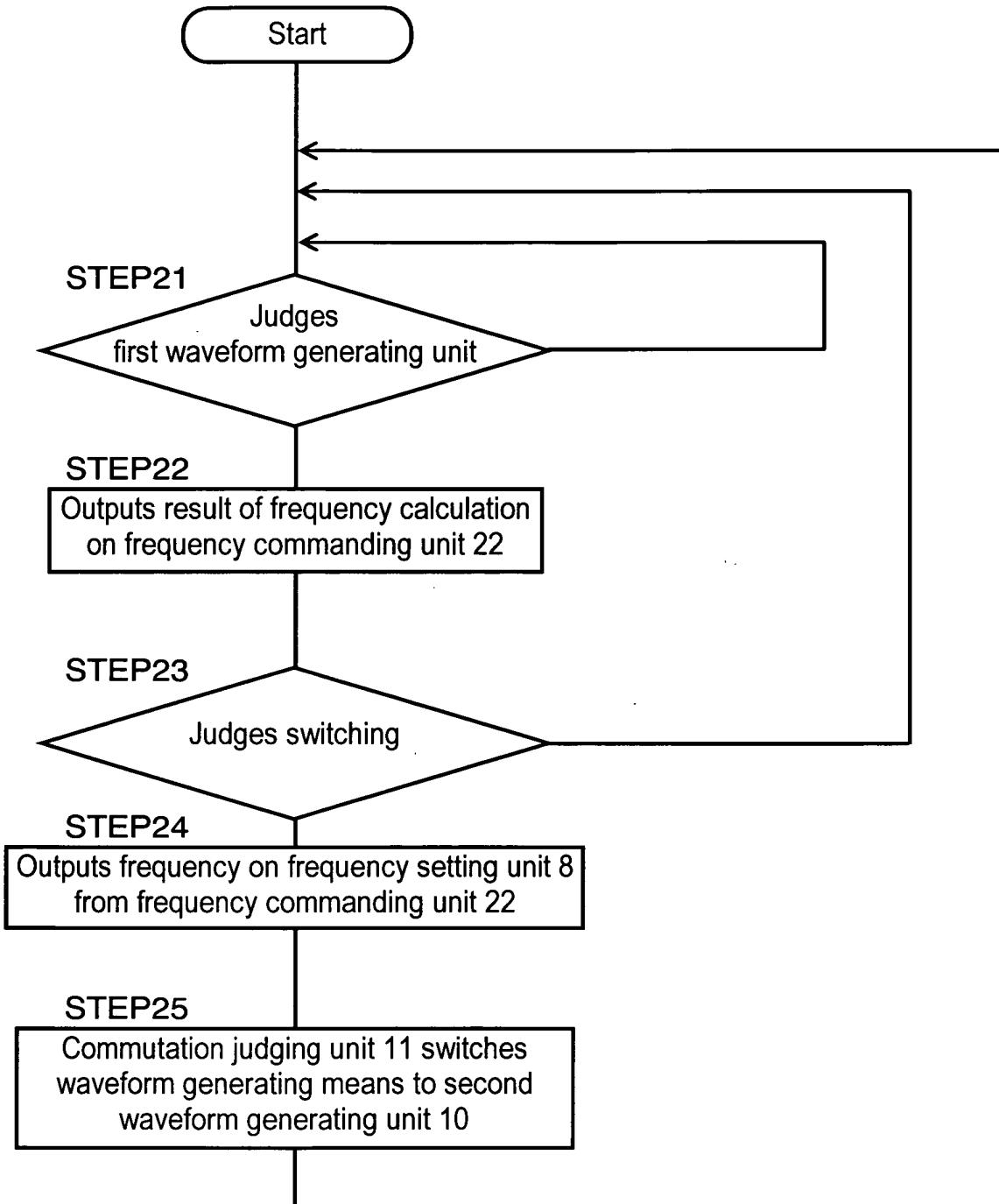
7/19

FIG. 10



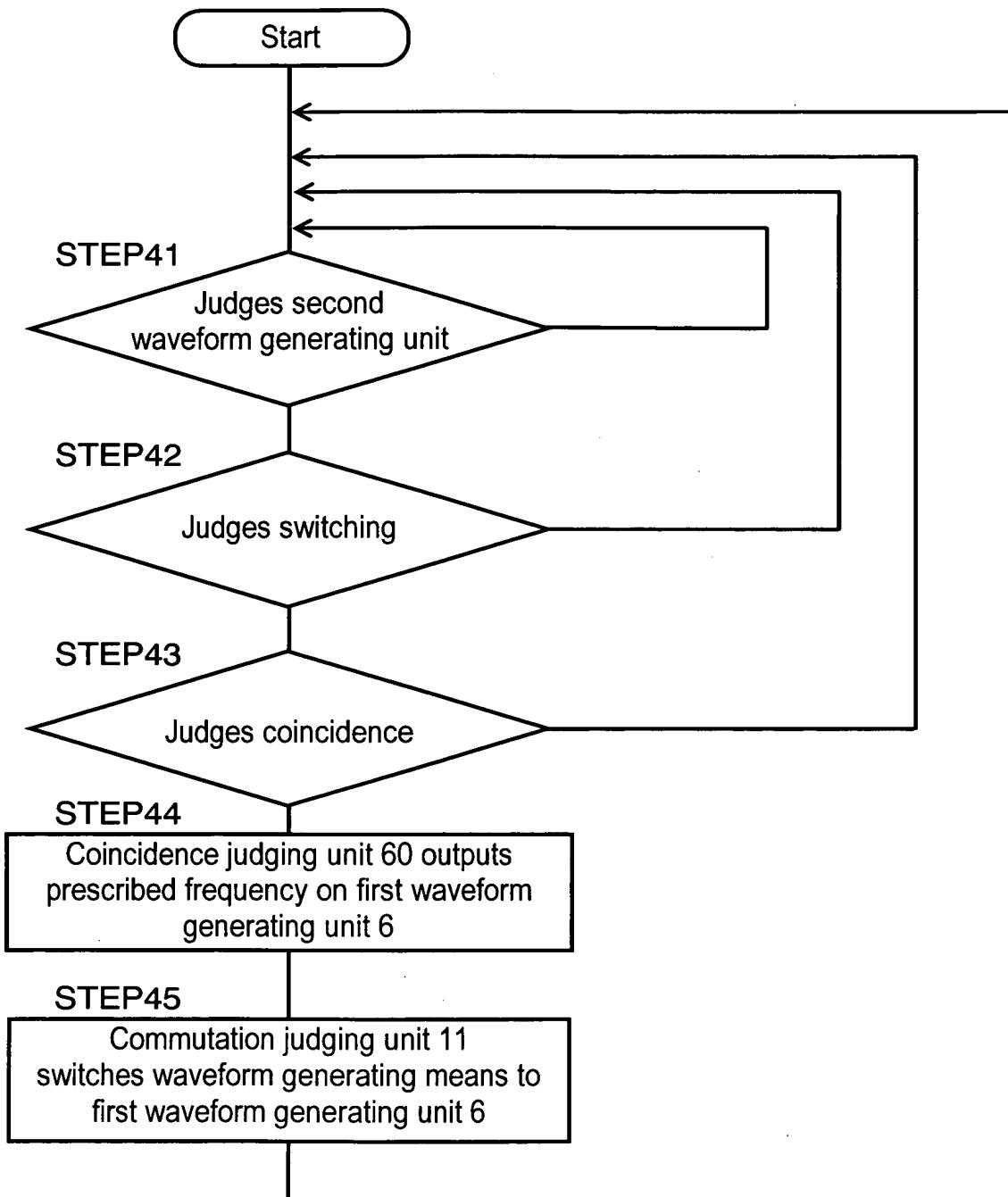
8/19

FIG. 11



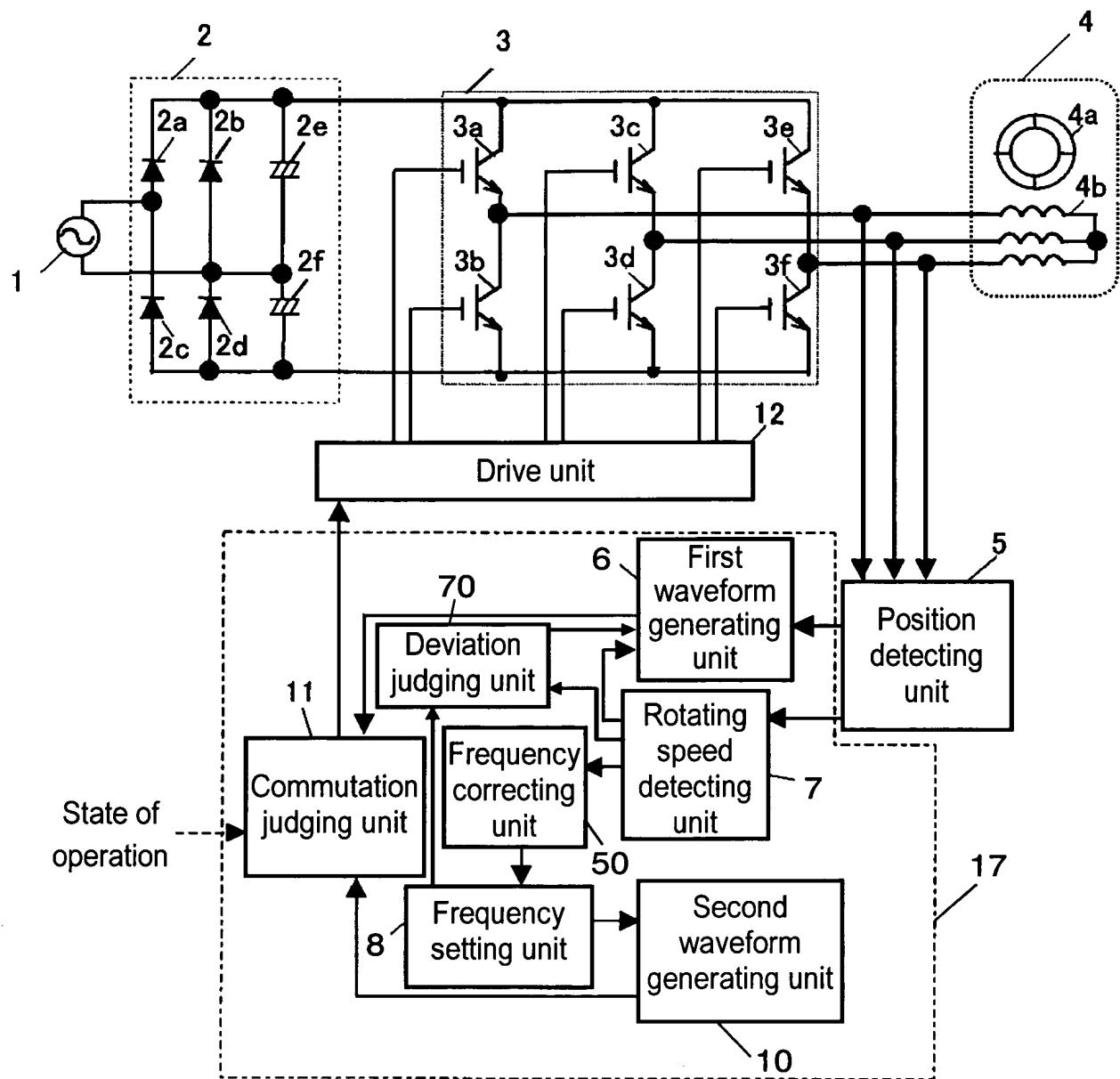
9/19

FIG. 12



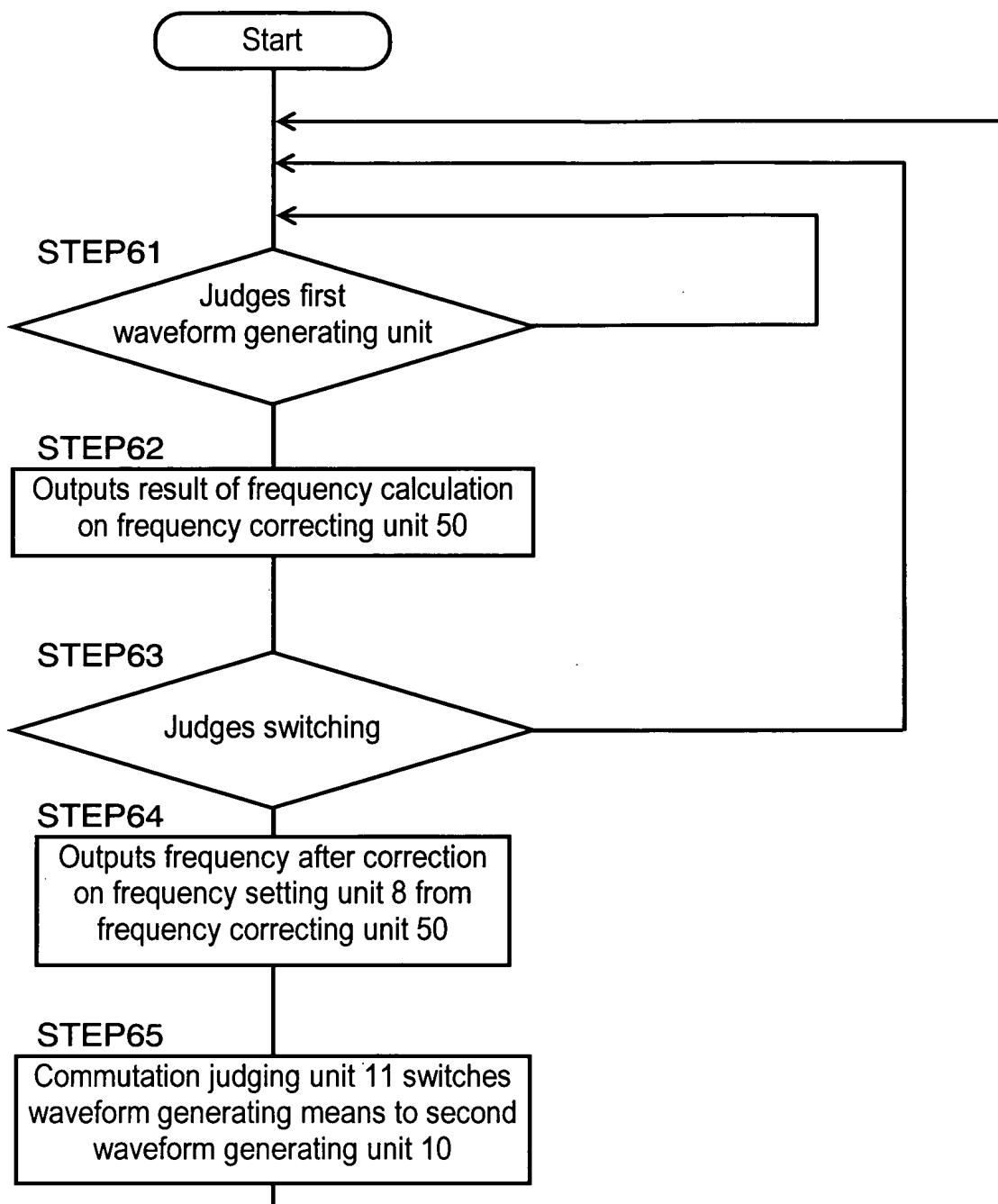
10/19

FIG. 13



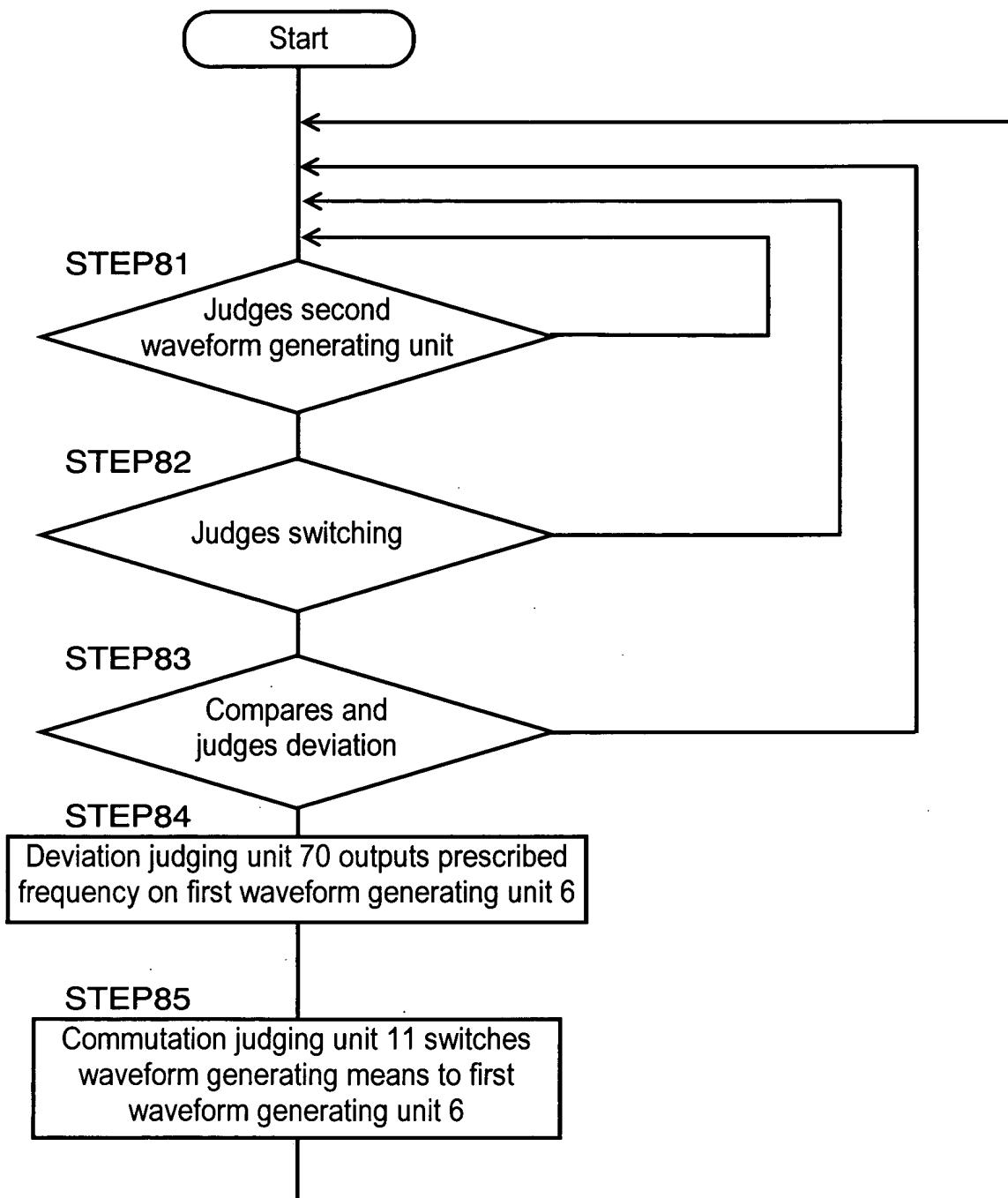
11/19

FIG. 14



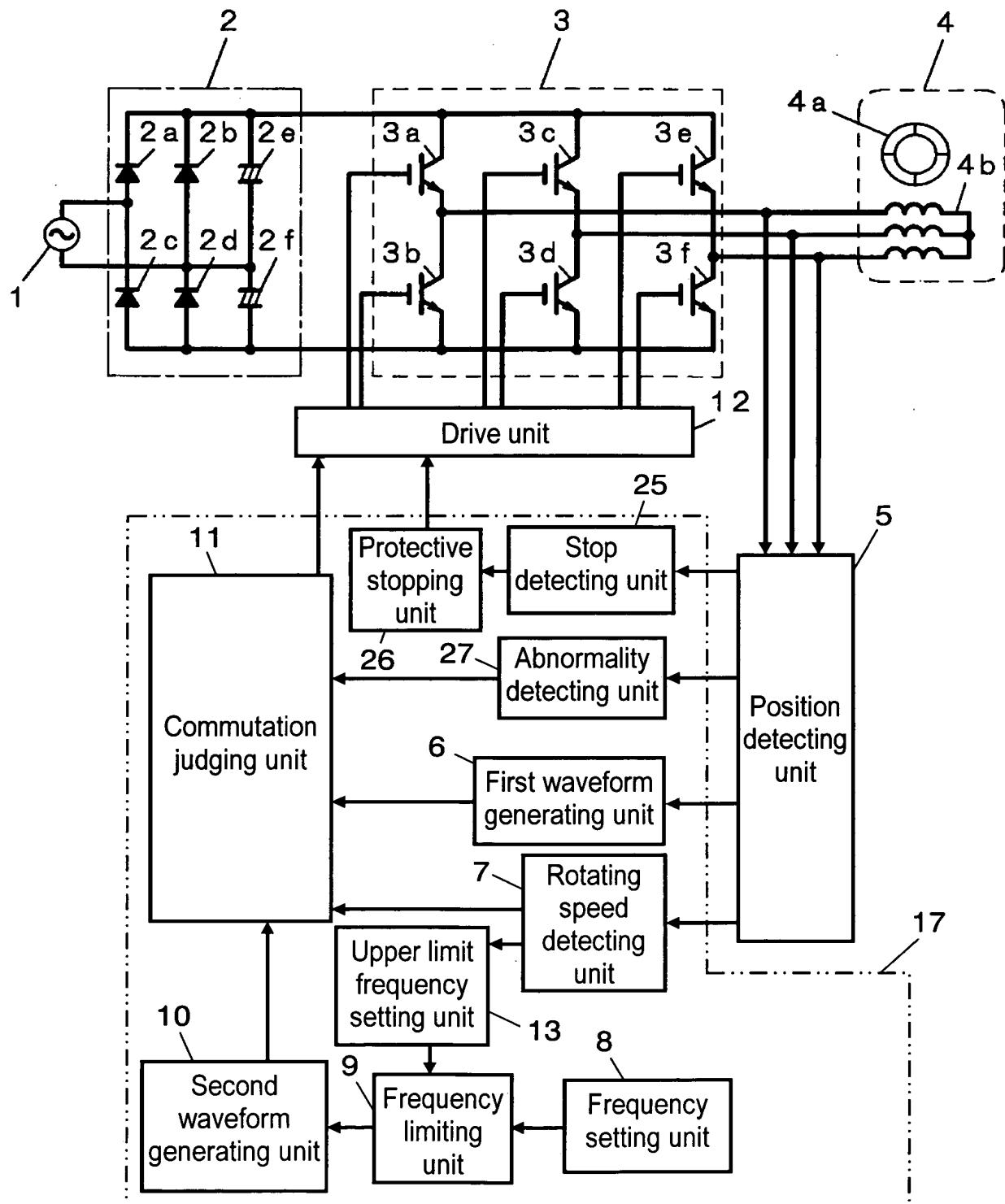
12/19

FIG. 15



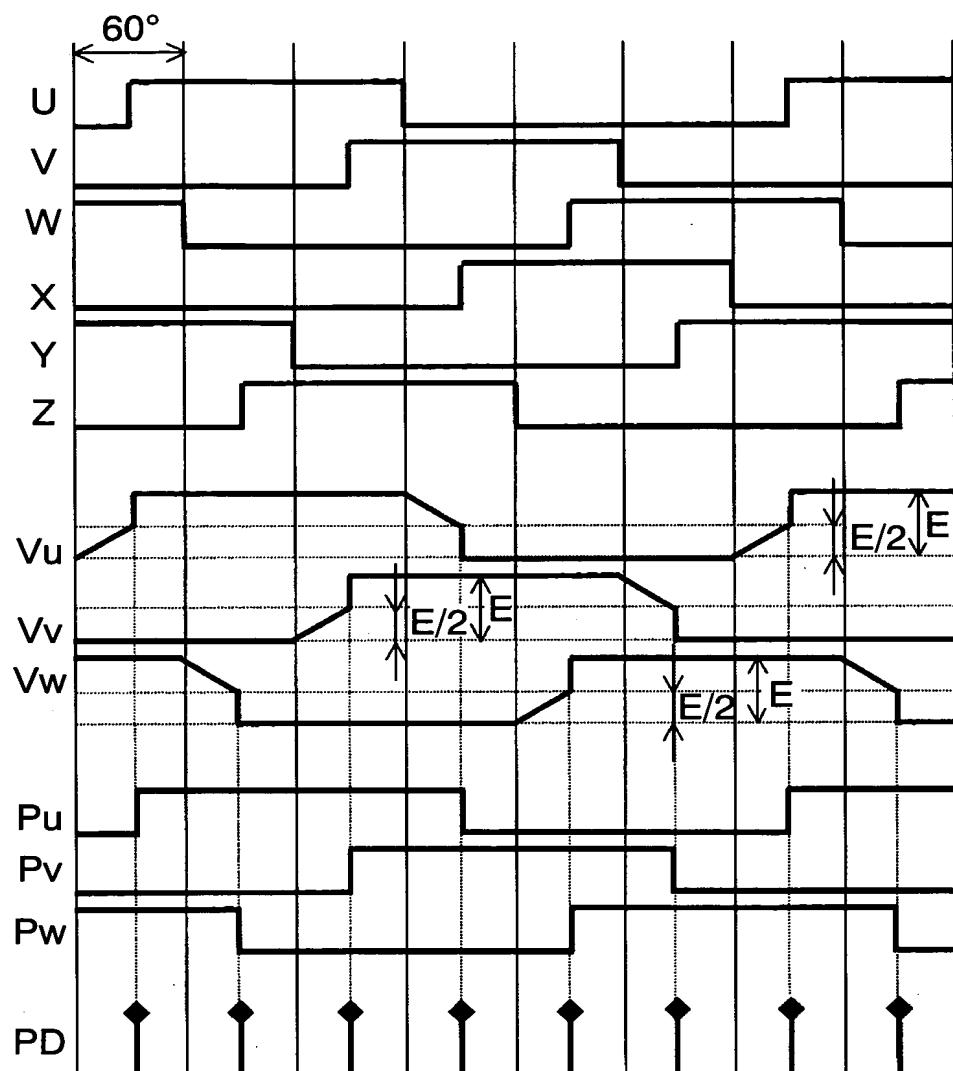
13/19

FIG. 16



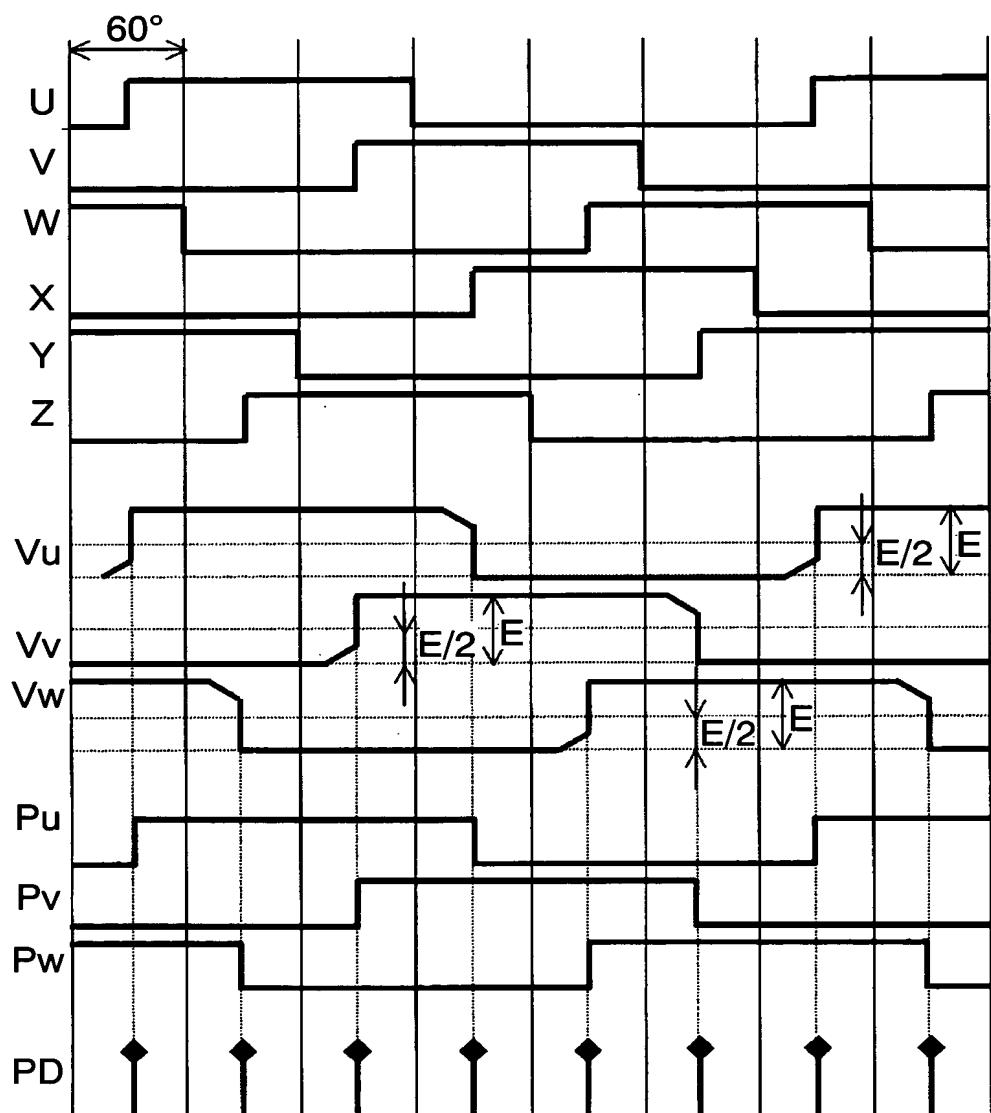
14/19

FIG. 17



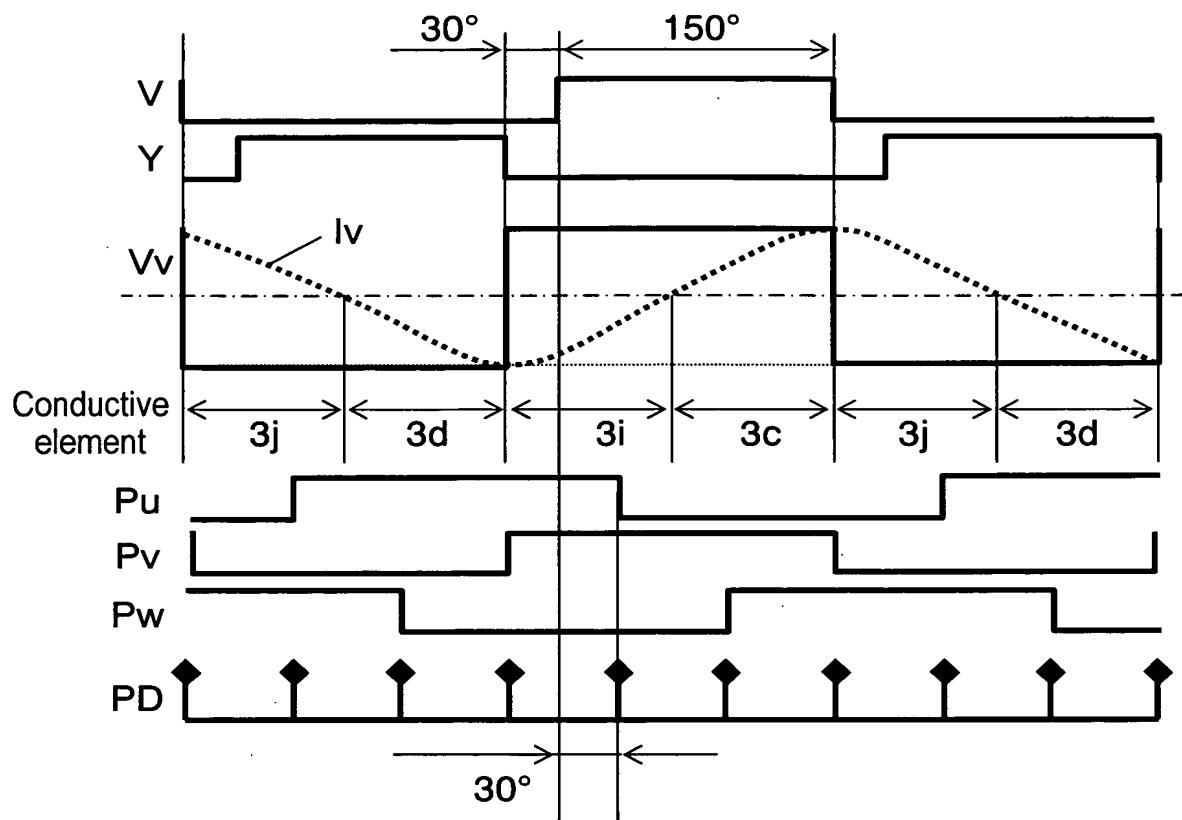
15/19

FIG. 18



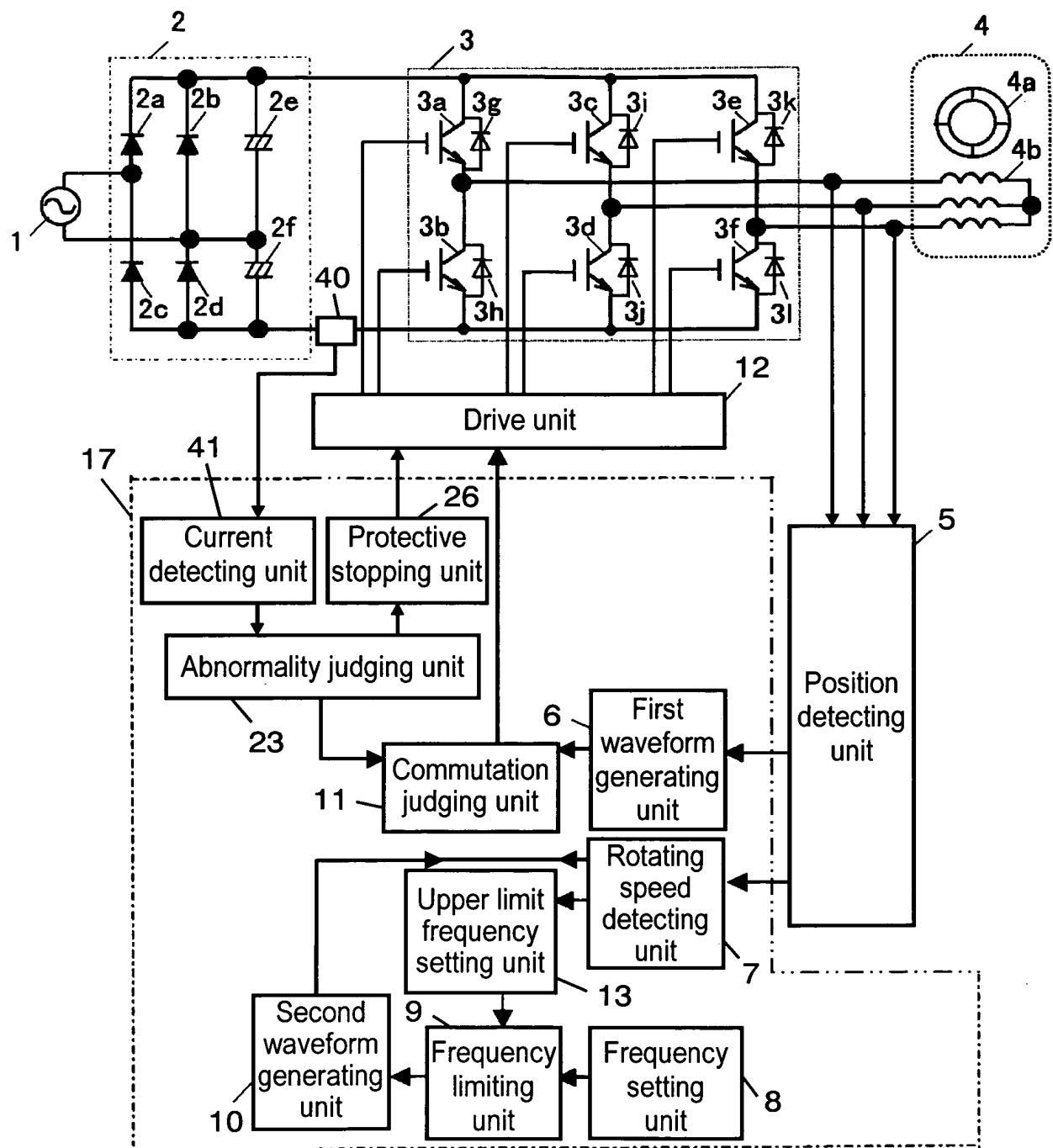
16/19

FIG. 19



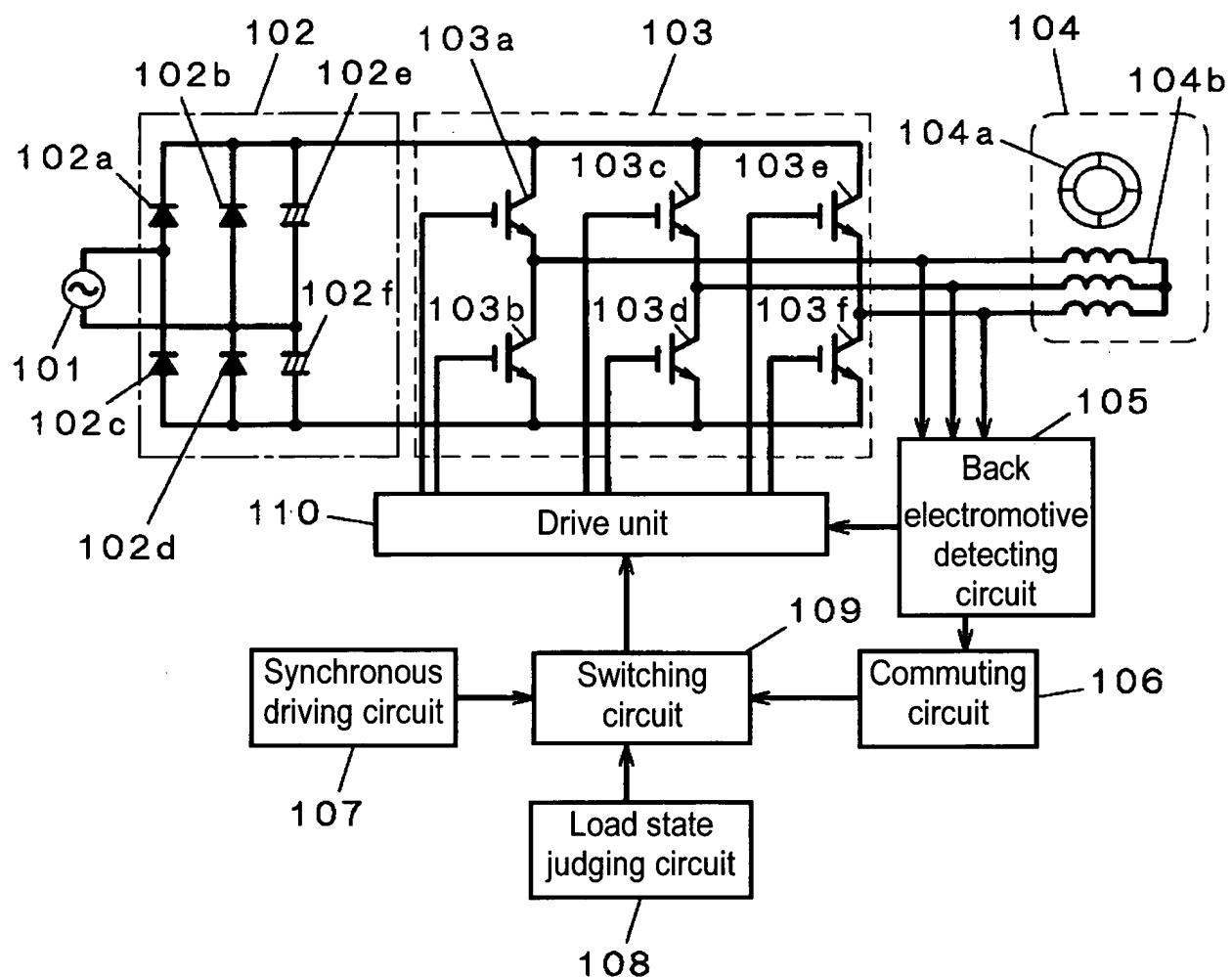
17/19

FIG. 20



18/19

FIG. 21



19/19

Reference numerals in the drawings

- 3 Inverter
- 4 Brushless DC motor
- 5 Position detecting unit
- 6 First waveform generating unit
- 7 Rotating speed detecting unit
- 8 Frequency setting unit
- 9 Frequency limiting unit
- 10 Second waveform generating unit
- 11 Commutation judging unit
- 12 Drive unit
- 13 Upper limit frequency setting unit
- 14 Upper limit frequency changing unit
- 16 Upper limit frequency correcting unit
- 22 Frequency commanding unit
- 23 Abnormality judging unit
- 25 Stop detecting unit
- 26 Protective stopping unit
- 27 Abnormality detecting unit
- 30 Output voltage detecting unit
- 40 Shunt resistor
- 41 Current detecting unit
- 42 Phase difference detecting unit
- 43 Amplitude detecting unit
- 50 Frequency correcting unit
- 60 Coincidence judging unit
- 70 Deviation judging unit